JC10 Rec'd PCT/PTO 14 JAN 2002

FORM PTO-1390 (REV. 9-2001) U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY 'S DOCKET NUMBER: 34185

U S. APPLICATION NO. (If known, see 37 CFR 1.5): 10/031078

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/FR00/02015	12 July 2000 (12.07.00)	15 July 1999 (15.07.99)

TITLE OF INVENTION: Holding Tongs for a Flexible Sleeve and Process for Closure of the Latter by Sealing

APPLICANT(S) FOR DO/EO/US: VARGAS, Didier

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. [ ] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. [ ] This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. [X] The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. [ ] is attached hereto (required only if not communicated by the International Bureau).
   b. [X] has been communicated by the International Bureau.
   c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. [X] An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. [X] is attached hereto.
   b. [ ] has been previously submitted under 35 U.S.C. 154(d)(4).
7. [X] Amendments to the claims of the International Aplication under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [ ] are attached hereto (required only if not communicated by the International Bureau).
   b. [ ] have been communicated by the International Bureau.
   c. [X] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [ ] have not been made and will not be made.
8. [ ] An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. [X] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [ ] An English lanugage translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. [ ] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [X] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [ ] A FIRST preliminary amendment.
14. [ ] A SECOND or SUBSEQUENT preliminary amendment.
15. [ ] A substitute specification.
16. [ ] A change of power of attorney and/or address letter.
17. [ ] A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. [ ] A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. [ ] A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. [X] Other items or information: Return Receipt Postcard

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U.S. APPLICATION NO. (If known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
10/089107	PCT/FR00/02015	34185

21. [X] The following fees are submitted:	CALCULATIONS PTO USE ONLY
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):	
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$1040.00**	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$890.00**	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$740.00**	
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$710.00**	
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) **$100.00**	
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 890.00
Surcharge of **$130.00** for furnishing the oath or declaration later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$ 0.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total claims	3 - 20 =	0	x **$18.00**	$ 0.00
Independent claims	2 - 3 =	0	x **$84.00**	$ 0.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable) N/A			+ **$280.00**	$ 0.00
TOTAL OF ABOVE CALCULATIONS =				$ 890.00
[ ] Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.			+	$ 0.00
SUBTOTAL =				$ 890.00
Processing fee of **$130.00** for furnishing the English translation later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				$ 0.00
TOTAL NATIONAL FEE =				$ 890.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$ 40.00
TOTAL FEES ENCLOSED =				$ 930.00
			Amount to be refunded:	$
			charged:	$

a. [X] A check in the amount of $ 930.00 to cover the above fees is enclosed.

b. [ ] Please charge my Deposit Account No. _____ in the amount of $_____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 16-0820. A duplicate copy of this sheet is enclosed.

Order No. 34185

d. [ ] Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

00116
PATENT & TRADEMARK OFFICE

SIGNATURE

Jeffrey S. Sopko
NAME

27676
REGISTRATION NUMBER

HOLDING TONGS FOR A FLEXIBLE SLEEVE AND PROCESS FOR CLOSURE OF THE LATTER BY SEALING

The present invention relates to closing supple sleeves by sealing in order to enclose and to isolate certain objects, together with holding tongs for the sleeve, which facilitate the process. The domain of the invention is more precisely that of leak-proof chambers under controlled pressure lower than atmospheric pressure such as glove boxes, from where it is sometimes necessary to extract parcels, taken out through openings around which flexible vinyl sleeves have been set in place. Afterwards, heating tongs are brought close to a position near the sleeve between the objects and the link with the opening to the chamber, in order to carry out three seals in this place before selecting one. The objects can then be taken away without polluting externally, and in the same way the portion of the sleeve remaining fixed to the chamber comprises no opening which could compromise its seal.

Despite its simplicity, this process is fastidious in practice. The low pressure chamber tends, in general, to cause pleats in the sleeves, to suck them in and to deform them continually.

If the sleeve is sealed when a pleat has been formed, the work risks being incorrect and the seal incomplete along its length. If there is tension on the sleeve during sealing, there is a possible risk of confinement rupture at this point, which is unacceptable. Therefore one has to take care while working, and a second operator is used in practice just

to support the parcel and to hold the sleeve while his or her colleague is engaged in sealing.

The present invention proposes an improvement of this process, and the original means used for carrying it out comprise supplementary tongs, whose function is not to seal but to prevent the formation of pleats by holding the sleeve flat over its whole width, to allow continuous aspiration between the parcel and the chamber during the preparation and to avoid tension in the sleeve during sealing by setting the holding tongs against the link with the opening because of the low pressure in the chamber.

These tongs comprise two articulated branches provided with facing edges able to be set apart to a distance close to the thickness of the sleeve when they are set parallel in a closure position of the branches; in addition, indentations are grooved in one of the facing edges.

The tongs are set in place before the operation of sealing the sleeve, by setting them on a portion of the sleeve at the level of the opening of the chamber.

Below, the invention will be described in more detail in order to emphasise its elements and advantages, together with its operation. With reference to the following figures:

- figure 1 is a view of the assembly of the elements of the process and

- figure 2 illustrates the new tongs.

On an opening 1 of a chamber 2 represented schematically, the extremity 3 of a flexible sleeve 4 in vinyl is under tension so as to form a sealed

link 3. The chamber 2 is under low pressure, as is normal for such techniques where it generally contains polluting or dangerous materials, in order to avoid any accidental leak from the chamber atmosphere 2 towards the exterior. The sleeve 4 is intended to contain certain parcels or objects 5, which need to be extracted from the chamber 2. When they are introduced into it, heating tongs 6 are brought in, provided with two clamping jaws 7, to the regions 8 in order to seal the sleeve 4. These regions 8 are clamped between the jaws 7, and then an electric current is passed through a resistance adjacent to one of the jaws 7 in order to heat it, melt the vinyl, and seal the sleeve 4 by sealing the regions 8, after which the sleeve 4 can be cut in the middle of the regions 8 in order to detach the objects 5 without exposing them to the open air and without compromising the seal of the chamber 2. Nonetheless, beforehand, another pair of tongs 9 has been set on the sleeve 4 between the regions 8 and the link 3; these clamping or holding tongs 9 comprise, as seen more clearly in figure 2, a pair of branches 10 and 11 articulated together by a pivot 12 and which comprise the facing clamping edges, 13 and 14 respectively, which remain apart even when the clamp 9 is closed to its maximum: their distance is almost equal to the thickness of the sleeve 4, so as to be able to grip it evenly and firmly but without using excessive effort which could lead to the formation of pleats. A stop between the branches 10 and 11 is provided by a contact between the end portions 15 and 16. Branches 10 and 11 are terminated by handles 17

and 18, beyond the pivot 12, which makes it possible to open the tongs 9 when they are gripped. A spring 19 is compressed between the handles 17 and 18 and keeps them apart to maintain the branches 10 and 11 close to the side of the facing surfaces 13 and 14 when the tongs 9 are released.

Nonetheless, one of these branches 10 is supplied with indentations 20 whose function is to allow slight gaping of the lips of the flattened sleeve 4 so that aspiration towards the chamber 2 can continue when the tongs 9 have been installed. The indentations 20 are arranged in such a way as to interrupt the edge 13 of the branch 10 on which they are installed, so much so that firm contact only really exists at the location of the holding jaws 21 which alternate with the indentations 20 on the branch 10.

Clamping with the tongs 9 prevents formation of pleats in the regions to be sealed 8; in such a way that the heating tongs 6 can be used by bringing them up to the holding tongs, in order to avoid any tension between them. In addition, the tongs 9, longer than the diameter of the opening 1, remain crosswise and are held in place by the low pressure of the chamber 2, which also immobilises sufficiently the sleeve 4.

CLAIMS

1. Holding tongs (9) for a flexible sleeve (4), characterised in that they comprise two articulated branches (10, 11), the branches comprising facing edges (13, 14) separated by a distance corresponding almost to the same thickness as the sleeve when they are held parallel in a closed position of the branches, a means (19) of closing the branches, and indentations (20) on one of the facing edges.

2. Holding tongs according to Claim 1, characterised in that the means of closing the branches is a spring compressed between two handles (17, 18) respectively extending the branches (10, 11) and set beyond the branches in relation to an articulation point (12).

3. Sealing process of a flexible sleeve fixed on an opening (1) of a low pressure chamber (2) by applying heated tongs (6), characterised in that it comprises a preparatory installation stage for a pair of tongs according to one or the other of Claims 1 or 2 on a portion of the sleeve at the level of the link with the opening (1) of the chamber (2) and a sealing region (8) of the sleeve.

FIG.1

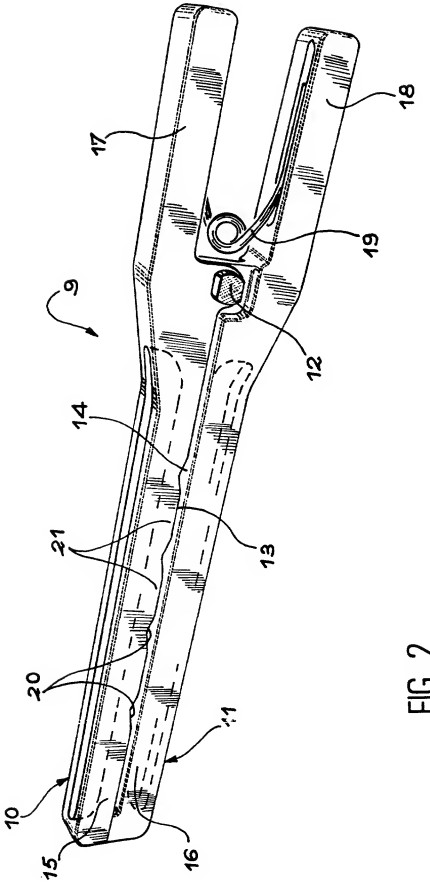

FIG. 2

B 13295 JCI

Declaration, Power Of Attorney and Petition

WE (I) the undersigned inventor(s), hereby declare(s) that :

My residence, post office address and citizenship are as stated below next to my name,

We (I) believe that we are (I am) the original, first, and joint (sole) inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled

HOLDING TONGS FOR A FLEXIBLE SLEEVE AND PROCESS FOR CLOSURE OF THE LATTER BY SEALING

the specification of which

☐ is attached hereto.

☐ was filed on

as Application Serial No.

and amended on

☒ was filed as PCT international application

Number PCT/FR00/02015

on July 12, 2000

and was amended under PCT Article 19

on

We (I) hereby state that we (I) have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We (I) acknowledge the duty to disclose information known to be material to the patentability of this application as defined in Section 1.56 of Title 37 Code of Federal Regulations.

We (I) hereby claim foreign priority benefits under 35 U.S.C. § 119 (a)-(d) or § 365 (b) of any foreign application(s) for patent or inventor's certificate, or § 365 (a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed. Prior Foreign Application (s)

Application No.	Country	Day/month/Year	Priority Claimed
99 09167	FRANCE	15 JULY 1999	☒ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO

We (I) hereby claim the benefit under Title 35, United States Code, § 119 (e) of any United States provisional application(s) listed below.

(Application Number) (Filing Date)

(Application Number) (Filing Date)

We (I) hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of prior application and the national or PCT International filing date of this application.

Application Serial No.	Filing Date	Status (pending, patented, abandoned)

And we (I) hereby appoint :Charles B. Gordon, Registration Number 16,923; William C. McCoy, Registration Number 16,885; Louis V. Granger, Registration Number 15,999; William A. Gail, Registration Number 17,409; Richard H. Dickinson Jr, Registration Number 18,622; Thomas P. Schiller, Registration Number 20,677; David B. Deioma, Registration Number 22,841; Joseph J. Corso, Registration Number 25,845; Howard G. Shimola, Registration Number 26,232; Jeffrey J. Sopko, Registration Number 27,676; John P. Murtaugh, Registration Number 34,226; James M. Moore, Registration Number 32,923; David E. Spaw, Registration Number 34,732; Michael W. Garvey, Registration Number 35,878; Paul R. Katterle, Registration Number 36,563; Richard M. Mescher, Registration Number 38,242 and Mark E. Bandy, Registration Number 35,788; our (my) attorneys, with full powers of substitution and revocation, to prosecute this application and to transact all business in the Patent Office connected therewith; and we (I) hereby request that all correspondence regarding this application be sent to the firm of PEARNE, GORDON, McCOY & GRANGER whose Post Office Address is : 526 Superior Avenue east Suite 1200 Cleveland, Ohio 44114-1484.

We (I) declare that all statements made herein of our (my) own knowledge are true and that all statements made on information and belief are believed to be true ; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardise the validity of the application or any patent issuing thereon.

VARGAS Didier

NAME OF FIRST SOLE INVENTOR

Signature of Inventor

November 09, 2001
Date

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